

**REMARKS**

Claims 1 and 2 remain pending in this application. Claims 1 and 2 are rejected. The specification has been amended to correct informalities.

The Office Action has suggested that some changes be made to the Abstract. Such changes have been made.

The disclosure has been objected to and the Office Action has requested that in Table 1 on page 5 that all instances of "NON" be replaced with "NO" or with "NONE." Appropriate correction has been made.

Claims 1 and 2 have been rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The Office Action states that in claim 1 it is unclear what is meant by the limitation "powder-line portion." Applicants hereby submit a copy of U.S. Patent No. 4,858,794, which describes what is meant by "powder-line portion" (see section 6 of the nozzle), a term that is known by one of ordinary skill in the art. The powder-line portion is the outside part of the nozzle that contacts the powder line in a mold.

Claims 1 and 2 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 7-40015 in view of JP 61-256961. To establish a *prima facie* case of obviousness, it is necessary to show that all the claim limitations are taught or suggested by the prior art. See *In re Royka and Martin*, 180 USPQ 580, 583, 490 F.2d 981 (CCPA 1974).

Claim 1 recites CaO contained as a mineral phase. Paragraph 0016 of JP 7-40015 discloses that the use of free CaO is discouraged. The prior art has the

objective of having a chemical compound including CaO instead of having free CaO. Accordingly, JP 7-40015 teaches away from the use of CaO contained as a mineral phase, as recited in claim 1. The Federal Circuit has stated that generally, a reference that teaches away cannot serve to create a *prima facie* case of obviousness. *See In re Gurley*, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). Thus, Applicants therefore respectfully request that the rejection of claim 1 be withdrawn.

Moreover, the present invention is directed to preventing cracks incurred during baking of a nozzle caused by the presence of free CaO and the prior art fails to disclose or suggest the recognition of this problem and a solution recognized to solve this problem.

Additionally, JP61-256961 does not teach a slaking prevention method to produce an immersion nozzle for continuous casting provided with a ZrO<sub>2</sub>-graphite refractory on the powder-line portion. The present invention is directed to applying a refractory material containing the CaO as a mineral phase to line the inner hole surface of the nozzle to reduce damage from the firing of the nozzle that is integrally formed of the lining with the body. This disclosure is not disclosed by JP 61-256961. Thus, the combined characteristics of the present invention that the clinker containing CaO as a mineral phase and the clinker constituting 10wt. % or more of the compound on the nozzle, as well as the prevention of deposition of alumina, are not disclosed or suggested by JP61-256961. In sum, the claimed invention is very different in technical concept than the cited art and not all of the claimed limitations

are disclosed or suggested in the prior art. Accordingly, claim 1 is patentable over the cited art and notice to that effect is respectfully requested.

Claim 2 is patentable at least for the reason that it depends from a patentable base claim. *See In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

Applicants respectfully request a one month extension of time for responding to the Office Action. **The fee of \$120.00 for the extension is provided for in the charge authorization presented in the PTO Form 2038, Credit Card Payment form, provided herewith.**

If there is any discrepancy between the fee(s) due and the fee payment authorized in the Credit Card Payment Form PTO-2038 or the Form PTO-2038 is missing or fee payment via the Form PTO-2038 cannot be processed, the USPTO is hereby authorized to charge any fee(s) or fee(s) deficiency or credit any excess payment to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form  
for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,  
JORDAN AND HAMBURG LLP

By Frank J. Jordan  
Frank J. Jordan  
Reg. No. 20,456  
Attorney for Applicants

*R* and,

By Ricardo Unikel  
Ricardo Unikel  
Reg. No. 52,309  
Attorney for Applicants

Jordan and Hamburg LLP  
122 East 42nd Street  
New York, New York 10168  
(212) 986-2340

enc: Form PTO-2038  
U.S. Patent No. 4,858,794

Please charge the fee of \$180.00 to Deposit Account 10-1250. If there are any additional charges, please charge to the same Deposit Account No.

Respectfully submitted,

Jordan and Hamburg LLP

By Frank J. Jordan  
Frank J. Jordan  
Reg. No. 20,456  
Attorney for Applicants

*By* and,

By Ricardo Unikel  
Ricardo Unikel  
Reg. No. 52,309  
Attorney for Applicants

Jordan and Hamburg LLP  
122 East 42nd Street  
New York, New York 10168  
(212) 986-2340

FJJ/cj  
Enc.